Date:

Thursday, 24/07/2008 2:36:52 PM

User:

Julie Lecocq

Process Sheet

Customer

: CU-DAR001 Dart Helicopters Services

Drawing Name

: HIGH AFT X-TUBE 412

Job Number

: 40750

Estimate Number P.O. Number

: 10559

S.O. No. :

Part Number

: 24/07/2008

Drawing Number

: D412664203

Prsht Rev.

: NC

: D412-664-243 REV D

: 11 First Issue

: CROSSTUBES Type

Project Number **Drawing Revision**

: N/A

Material

: 40749 Previous Run

Due Date

: 12/08/2008

Qty:

1 Um: Each

Written By

Comment

This Issue

Checked & Approved By

Reformat; Added D3189-1 K/DS Est Rev:E 04.02.16

Est Rev:F 06-03-29

Remove Coments on Pick List JLM

Est Rev:G 06.12.08

per ECN 886

EC

Est Rev:I 08-06-12

Est Rev:H 07-04-30 As per Rev D

add comment in seq. 21 DD verified

by:EC

Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description:

1.0

DOCUMENT CONTROL

Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D412-664-203 CHG 006

PACKAGING RESOURCE #1

Comment: PACKAGING RESOURCE #1

3.0

2.0

D412664203TRN

Crosstube Turning Detail



Comment: Qty.:

1.0000 Each(s)/Unit Total: 1.0000 Each(s)

CROSSTUBE TURNING DETAIL

batch 1340214

4.0

BENDING

BENDING MACHINE - SKIDTUBES

Comment: BENDING MACHINE

Bend tube as per Dwg D412-664-243 using CNC bender program 412-af and Folio FT010

5.0

QC15

DIMENSIONAL CHECK OF X-TUBES



Comment: DIMENSIONAL CHECK OF X-TUBES



Page 1

Form: rprocess

Dart Ae	rospace Ltd			* **						
W/O:			WORK ORDER CHANGES							
DATE	STEP	PR	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector			
		····								
Part No:		PAR #:	Fault Category:	NCR: Yes No DQA: Date:						
				QA:	N/C Close	d:	Date: _			
NCR:			WORK ORDER NON-CON	FORMANCE (NO	R)			:		
								,		

Farmer Sur

NCR: WORK ORDER NON-CONFORMANCE (NCR)								
		Description of NC		Corrective Action Section B		Verification	Anneous	Ammayal
DATE	STEP	Section A	Initial Chief Eng			Section C	Approval Chief Eng	Approval QC Inspector
						,		
				, , , , , , , , , , , , , , , , , , ,				
	1							-

Thursday, 24/07/2008 2:36:53 PM Date: User: Julie Lecocq **Process Sheet** Drawing Name: HIGH AFT X-TUBE 412 Customer: CU-DAR001 Dart Helicopters Services Part Number: D412664203 Job Number: 40750 Job Number: Description: Seq. #: Machine Or Operation: CROSSTUBES RESOURCE 1 CROSSTUBES 6.0 Comment: LANDING GEAR RESOURCE 1 1-Drill pilot holes in tube as per Dwg D412-664-243 using drill Jig DT8550 & DT8551 2-Ream hole to finish size in tube as per Dwg D412-664-243using drill Jig DT8550 & DT8551.Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes. 3-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D412-664-243 HAND FINISHING RESOURCE #1 7.0 HAND FINISHING AWM 4-5-1 Comment: HAND FINISHING RESOURCE #1 Chemical Conversion Coat as per QSI 005 4.1 INSPECT POWDER COAT/CHEMICAL CONVERSION QC3 8.0 Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION INSPECT WORK TO CURRENT STEP 9.0 QC5 WORK TO CURRENT STEP **OUTSIDE SERVICES -skids** OUTSIDE SERV.10 10.0 Comment: Sub-Contracting OUTSIDE SERVICES Liquid Penetrant Inspection as per QSI 038Or CL68/08/05 (1) Issue P/O: 6864 LPI as per ASTM 1417 Level 2 Attach copy of NDT results to work order PACKAGING 1 PACKAGING RESOURCE #1 11.0 Comment: PACKAGING RESOURCE #1 Inspect for transit damage Ensure copy of NDT results attached to work order.

W /O:		WORK ORDER CHANGES										
DATE	STEP	PROCEDURE CHANGE				Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector			
Part No	:	PAR #:	Fault Cate	gory:	NCR: Yes	No DQA	:	Date:				
			_					Date:				
NCR:		V	ORK ORD	ER NON-CONFORMA	NCE (NCF	(1)						
		Description of NC	Corrective Action Section B			Verific	ation	Approval	Approval			
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date		Section C	Chief Eng	QC Inspector			
			·									
		1 4										
						į		i				
						:						

Thursday, 24/07/2008 2:36:53 PM Date: User: Julie Lecocq **Process Sheet** Drawing Name: HIGH AFT X-TUBE 412 Customer: CU-DAR001 Dart Helicopters Services Job Number: 40750 **Part Number:** D412664203 Job Number: Description: Seq. #: **Machine Or Operation:** INSPECT WORK TO CURRENT STEP 12.0 QC5 08 08 05 Comment: Inspect for damage & ensure results are as per Dwg D412-664-203 SPRAY PAINTING 13.0 Comment: SPRAY P 1-Prime inside and outside crosstube as per QSI 005 4.2 2-Paint outside crosstube with White Imron as per QSI 005 4.2 INSPECT SPRAY PAINT QC14 14.0 **Comment:** Inspect Spray Paint 06-06-06 Wrap in plastic bag to protect from scratches D3595063570 RUBBER CUSHION 15.0 4.0000 Each(s)/Unit Total: 4.0000 Each(s) Comment: Qty.: **Rubber Cushion** Batch: 35126 08 01 D2856600 Abrasion Strip 16.0 Comment: Qty.: 1.7640 f(s)/Unit Total: 1.7640 f(s) Pick: Description Batch Qty Part number 2 D2856-600(Cut to 10.090") Abrasion Strip 17.0 D28961 Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s) Pick: **Description Batch** Qty Part number 80 80 1 D2896-1 Support_ D31891 Chafing Shield 18.0 Comment: Qty.: 2.0000 Each(s) 2.0000 Each(s)/Unit Total: Pick: **Description Batch** Qty Part number Chafing Sheild 37884 2 D3189-1

Page 3

Form: rprocess

W/O:		WORK ORDER CHANGES									
DATE	STEP	PROCEDURE CHANGE					Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector		
Part No		PAR #:	Fault Cateç	Jory:							
			WORK ORDE	TO NON CONFORMAN			d:	_ Date: _			
NCR:			WORK ORDE	ER NON-CONFORMAN	NCE (NCF	K) 					
DATE	STEP	Description of NC Section A	(B Ciam 6		cation	Approval	Approval			
			Initial Chief Eng	Action Description Chief Eng	Sign 8 Date	Sect	ion C	Chief Eng	QC Inspector		
			·				-, - <u>-,</u>		-		

Thursday, 24/07/2008 2:36:53 PM Date: Julie Lecocq User: **Process Sheet** Drawing Name: HIGH AFT X-TUBE 412 Customer: CU-DAR001 Dart Helicopters Services Job Number: 40750 Part Number: D412664203 Job Number: Seq. #: Description: Machine Or Operation: Clamp(per MIL-DTL-8783C) MS2192028 19.0 Comment: Qty.: 4.0000 Each(s)/Unit Total: 4.0000 Each(s) Pick: **Description Batch** Qty Part number Clamp 108720 4 MS21920-28 08 08 07 clamp(per MIL-DTL-8783C) 20.0 MS2192030 Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s) clamp(per MIL-DTL-8783C) 08 07 batch: 106810 CROSSTUBES CROSSTUBES RESOURCE 1 21.0 Comment: LANDING GEAR RESOURCE 1 Assemble as per Dwg D412-664-203 1- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe 2-Install supports with magnobond as per QSI 015 Adhere for for 12 Hrs Batch: 10762 \ 6398 Magnobond Expiry Date: 08/2009 Time: 1:30pm 3-Install clamps as per Dwg D212-664-203 using installaition jig DT9024 with 0.010 thick brass shims on both chafing sheild (D3189-1). Torque clamps to 80-100 in lb. INSPECT WORK TO CURRENT STEP 22.0 QC5 **Comment: INSPECT WORK TO CURRENT STEP** PACKAGING RESOURCE #1 23.0 **PACKAGING** Comment: PACKAGING RESOURCE #1 Pick Packing Kit

Dart Ae	rospace	Ltd						
W/O:			WC	ORK ORDER CHANGES				
DATE	STEP	PRO	OCEDURE CHAI	NGE	Ву	Date Qt	Approval Chief Eng / Prod Mgr	Approval QC Inspector
			•					
Part No:		PAR*#:	Fault Cate	gory: NC				
			NOBK ODDI	ER NON-CONFORMANCI			Date: _	
NCR:			WORK ORDI			1		
DATE	STEP	Description of NC Section A	Corrective Action Secondarial Action Description		Sign &	Verificatio Section C	n Approval Chief Eng	Approval QC Inspector
		OGGIOTA	Chief Eng	Chief Eng	Date	Section C	Office Ling	QO IIISPECIOI
		·						

	rsday, 24/07/2008 2:36:53 PM e Lecocq	Process Sheet
·	·	Drawing Name: HIGH AFT X-TUBE 412
"Customer:	CU-DAR001 Dart Helicopters Services	Diawing Name. FIGH AFT A-TOBE 412
Job Number:	40750	Part Number: D412664203
Job Number:		
		•
Seq. #:	Machine Or Operation:	Description :
24.0	AN640A	Bolt
•		
Comme	ent: Qty.: 4.0000 Each(s)/Unit Tol	tal : 4.0000 Each(s)
\ \text{\rightarrow} \ \text{\rightarrow} \ \ \text{\rightarrow} \ \ \text{\rightarrow} \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Bolt AQ11	· · · · · · · · · · · · · · · · · · ·
-	Batch: MIST +/	<u> </u>
25.0	AN641A	Bolt ()
Comme	ent: Qty.: 2.0000 Each(s)/Unit Tot	tal : 2.0000 Each(s)
\geq	Bolt	
26.0	AN960JD616	Washer Washer
26.0	ANSOUDD TO	vvasilei
Comme	,	otal: 18.0000 Each(s)
	Washer Batch: <u>M / 0795</u>	50
27.0	MS21042L6	Nut
, S Comme	ent: Qty.: 6.0000 Each(s)/Unit Tot Nut	tal: 6.0000 Each(s)
•	Batch: 11/05077	8/8/8
28.0	QC4	INSPECT 100% KITS FOR COMPLETENESS
Comme	ent: INSPECT 100% KITS FOR COMP	LETENESS & E & B
29.0	PACKAGING 1	PACKAGING RESOURCE #1
Comme	ent: PACKAGING RESOURCE #1	
	Identify and pack for shipping as pe	er PPP D412-664-203
	*****	if a wing time is less than 42 has see stan 27 for application time 8 data
•	*******Ensure tube is not packaged i	if curing time is less than 12 hrs, see step 27 for application time & date
-		ch a coltant
	Time & date of packaging:	8th , 2008 @ 10' Kom
	Location:	
	PPP Rev: 6	8/8/8 SN

		• • •							
W/O:			WC	RK ORDER CHANGES	3				
DATE	STEP	PR	OCEDURE CHA	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
Part No:		PAR #:	Fault Cate	jory: I	NCR: Yes	No DQ	A:	Date: _	····
					QA: N	I/C Close	d:	Date: _	
NCR:		,	WORK ORDI	ER NON-CONFORMAN	CE (NCF	₹)			
DATE	STEP	Description of NC	Corrective Action Section			Verification		Approval	Approval
	JILI	Section A	Initial Chief Eng	Action Description Chief Eng	Sign 8 Date		ion C	Chief Eng	QC Inspector
				18-18-19-19-19-19-19-19-19-19-19-19-19-19-19-					

Date:

Thursday, 24/07/2008 2:36:53 PM

User:

Julie Lecocq

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: HIGH AFT X-TUBE 412

Job Number: 40750

Part Number: D412664203

Job Number:

Seq. #:

Machine Or Operation:

Description:

30.0

QC21

FINAL INSPECTION/W/O RELEASE

:



Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



080812

										
W/O:			WC	RK ORDER CHAN	GES					
DATE	STEP	PROCEDURE CHANGE				y	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
										:
Part No	:	PAR #:	Fault Categ	jory:	NCR: \	es N	lo DQA	\:	Date: _	
	· · · · · · · · · · · · · · · · · · ·				Q	A: N/0	C Closed	:	_ Date: _	
NCR:			WORK ORDE	R NON-CONFORM	IANCE (N	ICR)				
5475	0750	Description of NC	1	ction B		Verification		Approval	Approval	
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Si	gn & Date	Sectio		Chief Eng	QC Inspector
		•								

DART AEROSPACE LTD	Work Order:	40750
Description: Crosstube Assembly (412 High Aft)	Part Number:	D412-664-243
Inspection Dwg: D412-664-243 Rev: D		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X	First Article	Prototype
---	---------------	-----------

In	spection Sheet	Talanana	Actual	Accept	Reject	Method of	Comments
Dra	wing Dimension	Tolerance	Dimension	Accept	Reject	Inspection	Comments
	2.684	+0.005/-0.000					
i	2.748	+0.005/-0.000					
	2.884	+0.005/-0.000					<u>.</u>
	3.019	+0.005/-0.000					
	3.163	+0.005/-0.000					
	3.308	+0.005/-0.000					
<	3.429	+0.005/-0.000					,
SIDE	2.990	+0.005/-0.000			-		
S	2.618	+0.005/-0.000					
	0.200	+/-0.010					
	R0.063	+/-0.010					
	R0.500	+/-0.010					
	4.971	+/-0.030					
	2.684	+0.005/-0.000					
	2.748	+0.005/-0.000					
	2.884	+0.005/-0.000					
	3.019	+0.005/-0.000					
	3.163	+0.005/-0.000					
	3.308	+0.005/-0.000					·
m	3.429	+0.005/-0.000					
SIDE	2.990	+0.005/-0.000					
S	2.618	+0.005/-0.000			_		
	0.200	+/-0.010					
	R0.063	+/-0.010			_		
	R0.500	+/-0.010					
	4.971	+/-0.030					
	124.09	+/-0.020					

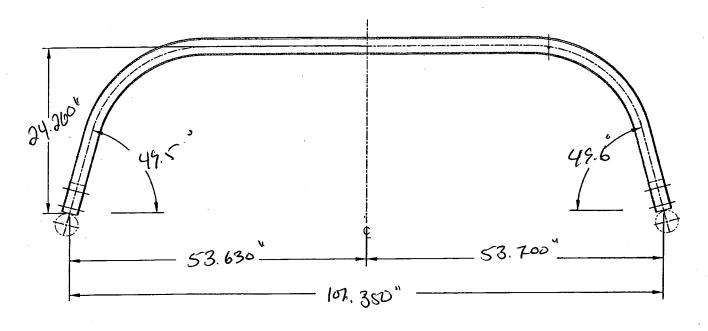
Measured by:	Audited by:	Prototype Approval:	N/A
Date:	Date:	Date:	N/A

Rev	Date	Change	Revised by	Approved
Α	04.06.16	New Issue (P/O D412-664-203)	KJ/JLM	
В	06.03.09	Dwg Rev updated	KJ/JLM ,,	
С	07.05.08	Tolerance updated for dimension 4.971	KJ/JLM 🚓	

W/O:		<u> </u>	WC	RK ORDER CHANGE	S				
DATE STEP		PRO	PROCEDURE CHANGE				Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
Part No	:	PAR #:	Fault Categ	Jory:	NCR: Yes	No DQA:		Date:	
		-			QA: N	I/C Closed:		_ Date: _	
NCR:		\	NORK ORDE	R NON-CONFORMAN	ICE (NCF	₹)			
DATE		Description of NC	Corrective Action Section		Verifica	Verification		Approval	
DATE	SIEP	STEP Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section		Approval Chief Eng	QC Inspecto
				·····					

DART AEROSPACE LTD	Work Order:	40750
		1000
Description: Crosstube High Aft (412)	Part Number:	D412-664-203
Inspection Dwg: D412-664-243 Rev: D		Page 1 of 1

Required Dimension	Min	Max
Height	24.24	24.50
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.70



	Comments
QC15 Inspection Date	8 (1)
Date	08/09/30

Rev	Date	Change	Revised by	Approved
Α	07.02.06	New Issue	KJ/JM ,,	
В	07.05.08	Dimensions updated per Dwg rev. D	KJ/JLM 🚓	fr

	•									
W/O:			WC	RK ORDER CHAN	GES					•••
DATE	STEP	PROCEDURE CHANGE			Ву	,	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
		·					_			
Part No		PAR #:	Fault Categ	ory:	NCR: Y	es N	o DQ	A :	_ Date: _	
					Q	4: N/C	Close	d:	_ Date: _	
NCR:			WORK ORDE	R NON-CONFORM	IANCE (N	CR)				
DATE	STEP	Description of NC Corrective Action			ction B	tion B Sign &		cation	Approval	Approval
	0	Section A	Initial Chief Eng	Action Description Chief Eng		ate	Section C		Chief Eng	QC Inspector
		2				· ,••		,		
										,
										,



DESI	gn <i>PH</i>	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHE	CKED	APPROVED ALL	DRAWING NO. REV. D
.	41		D412-664-243 SHEET 1 OF 3
DATE			TITLE SCALE
07.	.03.09		CROSSTUBE ASSEMBLY (412 HI AFT) NTS
Α		01.10.17	NEW ISSUE
В		05.02.04	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES
С		06.10.27	REMOVE D2856-600-1087, ADD D2732-058 & MAGNOBOND 6398 MS21920-32 WAS MS21920-30
D		07.03.09	REMOVE D2732-058, CHANGE TO D3595-063-570

Qty	Part Number	Description
Х	D412-664-243	CROSSTUBE ASSEMBLY (412 HIGH AFT)
1	D6009-129	CROSSTUBE
2	D3595-063-570	RUBBER CUSHION
1	D2896-1	SUPPORT
2	D2856-600-1009	ABRASION STRIP
4	MS21920-28	CLAMP
2	MS21920-30	CLAMP (OR MS21920-32)
2	D3189-1	CHAFING SHIELD
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- MATERIAL: MANUFACTURED FROM D6009-129 2)
 - FINISHED LENGTH = 124.09±0.020
- FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2 PAINT OUTSIDE PER DART 005 4.2
 - PART IS SYMMETRIC ABOUT CENTERLINE.
- RUN-OFF PART, BLEND OUT EDGE LONGITUDINALY, TRANSITION SHOULD BE SMOOTH.
- BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH VIBRATING 8) STYLUS.
- INSTALL D2856-600-1009 ABRASION STRIP WITH A 0.13 (REF) GAP ON BOTTOM SIDE OF CROSSTUBE PER QSI 035.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) APPLY A 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2896-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 12) INSTALL MS21920-30 CLAMPS (OR -32) WITH D3595-063-570 RUBBER CUSHIONS TO SECURE D2896-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE CROSSTUBE SUPPORT.
- 13) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

SHOP COPY RETURN TO ENGINEERING UNCONTROLLED COPY SUBJECT TO AMENDMENT WITHOUT NOTICE WORK ORDER

Copyright 2001 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

		WO	RK ORDER CHANG	ES	· · · · · · · · · · · · · · · · · · ·		4.4	
STEP	PR	PROCEDURE CHANGE				Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
	· ·							
:	PAR #:	Fault Categ	ory:	NCR: Yes	No DQ	A:	Date:	
				QA: I	N/C Close	d:	_ Date: _	
		WORK ORDE	R NON-CONFORMA	NCE (NC	₹)			
STED	Description of NC		Corrective Action Section B			Verification		Approval
0121	Section A	Section A Initial Action Descrip Chief Eng Chief Eng			Section C		Chief Eng	QC Inspector
							i i	
								,
								. •
		STEP PR PAR #:	STEP PROCEDURE CHAN PAR #: Fault Categ WORK ORDE STEP Description of NC Section A Initial	STEP PROCEDURE CHANGE PAR #: Fault Category: WORK ORDER NON-CONFORMA STEP Description of NC	STEP PROCEDURE CHANGE By PAR #: Fault Category: NCR: Yes QA: N WORK ORDER NON-CONFORMANCE (NCF STEP Description of NC	STEP PROCEDURE CHANGE By Date PAR #: Fault Category: NCR: Yes No DQ/ QA: N/C Closed WORK ORDER NON-CONFORMANCE (NCR) STEP Description of NC Corrective Action Section B Section A Section A Section B Section A Section B Section B Section B Section A Section B Secti	STEP PROCEDURE CHANGE By Date Qty PAR #: Fault Category: NCR: Yes No DQA: QA: N/C Closed: WORK ORDER NON-CONFORMANCE (NCR) STEP Description of NC	STEP PROCEDURE CHANGE By Date Qty Chief Eng / Prod Mgr :PAR #: Fault Category: NCR: Yes No DQA: Date: QA: N/C Closed: Date: WORK ORDER NON-CONFORMANCE (NCR) STEP Description of NC

		•
ACU	REN	

LIQUID PENETRANT TEST REPORT

P- 08930

ACUREN							1	,
•					£			OF
CLIENT	Dart Ae	rospace		DATE	August 2	+4∂008 tin B-14 2 6	ME AM	⊐ PM □
ATTENTION	1-make	Lacelle		ACUREN JOB NO	<u> 188-0</u>	8-1426		
ADDRESS	1270 F	rospace Lacelle Aberdeen st.		POWO No	んといけ			
ADDINEGG	Ha . Marl	oury ontar	io	- WORK LOCATION	Hawk	resburg		
		<u> </u>		- ACCEPTANCE STI	D. ASTM 141	(es bury 7/051-038RE	v./Date	200 5
Dog was	High Art	X-TUBE (117)	212/200	S Hich Al	FT X-Tua	E ASSEM B	17,2063	AFT X-TUB
PROJECT	Tob 4 1/07	LG POZEDH	0507 LIN	508 HOSE			7	
ITEM(S) EXAMINED	JUD# 90 4	7 1/10 73 4 1			··•			
JOB DESCRIPTION	ON	PROCEDURE NO. LT->	XXX REV./DATE			LT-XXXX-XXX RE		
PART NO DUID /	בור במלשו	cent liquic	6(320)	MATERIAL All	oduno a	4 minuAHICKNE	ESS	
PART NO. 17146	T 11	007201, D2061	1 00.00+	rant in	pertion	carried	out a	n 1000
SCOPE <u>we</u>	1 P100 PC	cent liquic	y periel	1 4101 111 5				
	external	surrace						
TEST DETAILS	⊡ Fuuor	DECCENT []	VISIBLE	WATER WASH	1 0	SOLVENT REMOVAB	LE OF	OST EMULSIFIED
METHOD FAMILY BRAND	Magnafi		VISIDEE	BLACK LIGHT S/N	1636955	Ουτρυτ > 1000 μ V	V/cm² □A	MBIENT < 2 fc
	L 67	MINIMUM DWELL TIME	10 45 Min.	LIGHTING EQUIP.	FLASHLIGHT C	TROUBLELIGHT	COUTPUT>10	0 fc @ SURFACE
PENETRANT REMOV	/ER, #20	MINIMUM DRY TIME	>10 MIN.	OTHER	u		AL DUE DATE	Dec 16 /08
	Kd S-2	MINIMUM DWELL TIME	10 Min. DRY	LIGHT METER S/N	N		AL DUE DATE	
TEST SURFACE	DE NON AQU	EOUS AQUEOUS	U DKT	1.				
SURFACE CONDITIO	N AS GROU	ND 🗆 As W		☐ MACHINED	☐ SHOT BLA	STED		BARE METAL
SURFACE TEMPERA			20°F to 10°C/50°	°F	₽ 10°C/50°F	то 52°C/125°F	□ > 52°C/	125°F
RESULTS-	(METRIC	☐ IMPERIAL)			ري د ۱۰۰۰ سي پر ۱۰۰۰ سيد د	 	× -	* * *
ITEM	_	<i>I</i> ENTS	ACCEPT REJECT					
Sob# 405	41: ACCE	PTABLE			\sim			
4050	07: ACCE	PTABLE				<><><		<
4050	B, ACCE	PTA BLE						
4074	19: ACCE	PTABLE			X > X		\times	
	50) ACCE				XXVIX	V 4 0,2	\times	\times
						p > 0		
<u> </u>		And the same of th						
							XX	
				1,				$\rightarrow \leftarrow \rightarrow \leftarrow \uparrow$
				1_><>>		<		$\leq \geq \geq$
				1				
Scane of Sarricce								It is expressly understood
that all descriptions, comm representations or warrant data or other information p	nents and expressions of opi- vies. Acuren Group Inc. is n provided by Acuren Group I.	ees extends only to those services pro inion reflect the opinions or observa- tot assuming any responsibilities of t Inc. In no event shall Acuren Group	he owner/operator and the Inc.'s liability in respect o	e owner/operator retains co f the services referred to he	omplete responsibility for erein exceed the amount	r the engineering, manufacti paid for such services.	ure, repair and use	decisions as a result of the
Standard of Care In performing the services implied, is made or intende	provided, Acuren Group Inc	c. uses the degree, care and skill ord	inarily exercised under sin	nilar circumstances by oth	ers performing such serv	ices in the same or similar l	ocality. No other w	carranty, expressed or
SIGNATURES	y			1				
CLIENT REPRESE	NTATIVE TANK	in livedoch	/	Lallis	Wal	DTR#		
TECHNICIAN (SIGNA		PRINT		SIGNATURE		EPORT		
l	Ch.	ignon Freder	ick		R	EVIEWED BY: NAM	иE	INITIALS
NAME (PRINT):	00001	1 ST TECHNICIAN		2 [№] TECHNICIAN	LEVEL			
	CGSB RE	EVEL II SNT LEVEL EG. NO 10560	CGSB R					

: HIGH AFT X-TUBE 412

. D412-664-243 REV D

: D412664203

: 12/08/2008

: N/A

: D

Each

1 Um:

Date:

Thursday, 24/07/2008 4:19:41 PM

User: Julie Lecocq

Process Sheet

Drawing Name

Part Number

Material

Due Date

EC

JLM

Drawing Number

Project Number

Drawing Revision

Customer Job Number : CU-DAR001 Dart Helicopters Services

: 40750 : 10559

Estimate Number P.O. Number

This Issue Prsht Rev. : 24/07/2008

: NC

: 24/07/2008

Type

: CROSSTUBES

: 40749

Written By

Checked & Approved By

Comment

First Issue

Previous Run

: Est Rev:E 04.02.16

Est Rev:F 06-03-29

S.O. No. :

Est Rev:G 06.12.08

per ECN 886 Est Rev:H 07-04-30 As per Rev D

Est Rev: 08-06-12 add comment in seq. 21 DD verified

Reformat: Added D3189-1 K/DS

Remove Coments on Pick List JLM

bv:EC

REFERENCE ONLY

Qty:

Additional Product

Job Number:



Seq. #:

Machine Or Operation:

Description: DOCUMENT CONTROL

1.0 DC

Comment: DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D412-664-203 CHG 006

2.0

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

3.0

D412664203TRN

Crosstube Turning Detail



1.0000 Each(s)/Unit Total:

1.0000 Each(s)

CROSSTUBE TURNING DETAIL

batch

Comment: Qty.:

4.0

BENDING

BENDING MACHINE - SKIDTUBES



Comment: BENDING MACHINE Bend tube as per Dwg D412-664-243 using CNC bender program 412-af and Folio FT010

Job Completion



